

# PATENT ABSTRACTS OF JAPAN

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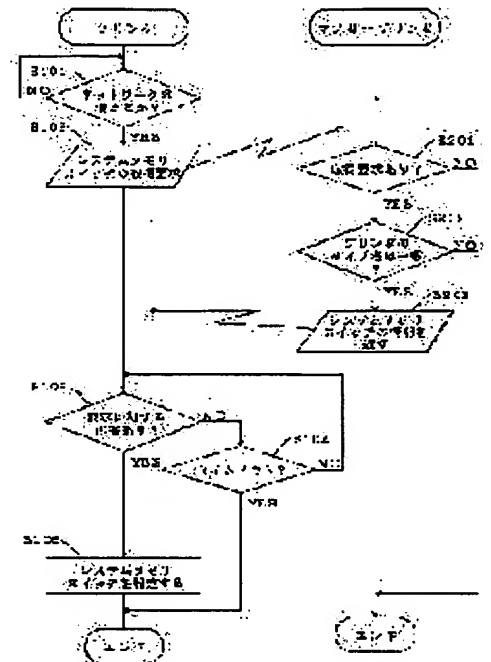
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## (54) METHOD FOR AUTOMATICALLY SETTING SYSTEM STATE OF PRINTER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a system for automatically acquiring and setting a system state of a system memory switch or the like, of a printer from a master printer in a network.

**SOLUTION:** In a network system, each printer requests acquisition of the system state of the system memory switch, or the like, to a network when it is in a state operable on the network at the time of starting. When a printer requesting acquisition of set information belongs to its own type, a master printer sends back a set content identical to that set and held in the master printer as set information. Upon receiving a response within a preset time, the printer requesting acquisition of set information sets the system memory switch according to the content of set information of the received response before starting the operation (steps S1-1-S105, S201-S203).



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**CLAIMS**

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[Claim(s)]

[Claim 1] The master printer which manages two or more printer and two or more printers concerned on a network is connected. It is the system state automatic setting method of the printer which sets up the system state of the system memory switch of each of said printer etc. Said each printer performs an acquisition demand of self system-status information to said master printer through said network at the time of starting. The system state automatic setting method of the printer by which said master printer transmits system-status information according to the acquisition demand of the printer concerned, and said printer is characterized by setting a system state automatically based on said system-status information received from the master printer concerned.

[Claim 2] Said master printer registers into an address list the network address of the printer concerned transmitted by the acquisition demand of the system-status information from the printer at the time of said starting. Transmit system-status information to the printer registered into said address list at a predetermined stage, and a system state setting demand is performed at it. The system state automatic setting method of the printer according to claim 1 characterized by the printer which received the system state setting demand concerned setting a system state automatically based on the transmitted system-status information concerned.

[Claim 3] Said each printer is the system state automatic setting method of the printer according to claim 1 or 2 characterized by setting a system state automatically based on the received system-status information concerned, when the network address of said master printer is memorized, an acquisition demand of said system-status information is performed to the master printer of the network address concerned and said master printer transmits system-status information according to the acquisition demand of the printer concerned.

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**DETAILED DESCRIPTION**

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the system state automatic setting method of the printer which acquires and sets up automatically a setup of the system state of the system memory switch suitable for the user environment for operating as a shared printer in a detail etc. from the master printer in a network about the system state automatic setting method of a printer.

[0002]

[Description of the Prior Art] Recently, a network progresses, and while it is becoming general that a printer is connected to a network, low-pricing, miniaturization, improvement in the speed, and colorization are progressing.

[0003] Especially, in a big company, there is also much number of the printer connected to a network, on the occasion of installation of a printer, it takes into consideration also about the support after installation, and the cases which carry out the same manufacturer's printer collectively are increasing in number.

[0004] That is, a printer is faced using it, has the item which needs a setup beforehand, and has a setting item for using it in the setting item and network as the printer itself as this setting item.

[0005] As a setting item for using it in a network, although a network address must be set up at worst, recently, the method (DHCP function of Windows (trademark)) which acquires automatically the address which is vacant from the network server, and starts it at the time of starting of a printer is becoming in use.

[0006] By using this method, an automatic setup of the printer can be changed into the condition that a network can be used at the time of starting.

[0007] On the other hand, it is necessary to set up the own setting item of a printer from an one-set one-set panel or a network using the tool of dedication, and it has a setup of a system memory switch as a setting item of a printer own [ this ], for example. Although the contents of this system memory switch operate without a problem using a printer even if they are default setup beforehand set up by the manufacturer of a printer, they have for a user a case to set it as the contents of a setting which suited the operational environment of a printer.

[0008] For example, when printing application etc. performs parallel printing, vicarious execution printing, etc. in many cases and the same data as two or more printers are printed by making a setup of each printer the same, a printing result does not go wrong in many cases.

[0009] As shown in drawing 7 , to a network 100 In such a case, two or more printers 101a-101n of Type A, If two or more printers 102a-102n of Type B are introduced and connected and two or more personal computers 103a-103b are connected to this network 100 In the former, the capacity of memory differs also from the number of the emulation which can be used, and trays by the printers 101a-101n of Type A, and the printers 102a-102n of Type B.

[0010] Therefore, even if it is the case where it sets automatically, it is necessary to set up the Printers 101a-101n and Printers [ 102a-102n ] contents of a system memory according to a Printers 101a-101n and Printers [ 102a-102n ] type.

[0011] Therefore, since the direction out of which the setting approaches (network setup etc.) of operating environment came scatteringly by each manufacturer and which they made the same manufacturer for a certain reason has little rating also as a manager, and ends and it becomes easy to carry out a maintenance when there is much number of the printer to introduce recently, it is in the inclination to unify the manufacturer of a printer.

[0012] However, even if it is the same manufacturer's printer, when the contents of a setting also change

somewhat with models and dozens of sets are set up, there is a problem that \*\*\*\*\* and workability have bad time amount also in the activity.

[0013] Therefore, recently, there is a request of "wanting you to make it a setup which suited the user environment beforehand by the manufacturer side at the time of delivery."

[0014] Then, it is the print control unit which controls printing processing of the printing section conventionally based on the printed information which communicates with a data processor and receives through predetermined communication media. The 1st setting means which sets up a desired printing environment for every different printing configuration mode, The 1st storage means which memorizes two or more printing environments for every attribute set up by said 1st setting means, The 2nd storage means which memorizes the printing environment of the meaning which should be set as the printing section, and the 1st distinction means which distinguishes the classification in the printing configuration mode set as said printing section, An acquisition means to acquire identification information from said data processor based on the printing configuration mode distinguished by said 1st distinction means, The print control unit which has the 2nd setting means which sets the printing environment chosen from said 1st storage means based on said identification information acquired with said acquisition means as said 2nd storage means is proposed (refer to JP,11-203086,A).

[0015] This print control unit makes automatic selection of the printing environment which acquired the identification information which corresponds from the host computer which is the data processor of RIMOTO as printing configuration mode set up from the airline printer, i.e., the body panel of a printer etc., and was registered into the 1st storage means, and sets it automatically for the 2nd storage means as a printing environment of KARENTO to the printing section.

[0016]

[Problem(s) to be Solved by the Invention] However, if it was in the conventional technique such given in an official report, the desired printing environment needed to be set up for every beforehand different printing configuration mode for every printer, a setup is troublesome and there was a problem that availability was bad.

[0017] Then, the master printer by which invention according to claim 1 manages two or more printer and two or more printers concerned on a network is connected. Each printer performs an acquisition demand of self system-status information to a master printer through a network at the time of starting. When a master printer transmits system-status information according to the acquisition demand of the printer concerned and sets a system state automatically based on the system-status information which the printer received from the master printer concerned Without needing a device special to others, in the environment of only a printer, acquire the system state of the system memory switch of the printer of many number etc. from a master printer via a network, and it is set up automatically. It is user-friendly for a user or a serviceman, and aims at offering the system state automatic setting method of the printer set as the printer which a maintenance tends to carry out.

[0018] Invention according to claim 2 registers into an address list the network address of the printer concerned by which the master printer has been transmitted by the acquisition demand of the system-status information from the printer at the time of starting. Transmit system-status information to the printer registered into the address list at a predetermined stage, and a system state setting demand is performed at it. When the printer which received the system state setting demand concerned sets a system state automatically based on the transmitted system-status information concerned The system state of a printer is set up from a master printer side at the suitable stage after installation of a printer, and it is user-friendly for a user or a serviceman, and aims at offering the system state automatic setting method of the printer set as the printer which a maintenance tends to carry out.

[0019] As for invention according to claim 3, each printer memorizes the network address of a master printer. If an acquisition demand of system-status information is performed to the master printer of the network address concerned and a master printer transmits system-status information according to the acquisition demand of the printer concerned By setting a system state automatically based on the received system-status information concerned It aims at offering the system state automatic setting method of the printer which can set a system state automatically efficiently, performing an acquisition demand of system-status information only to a specific master printer, and using transmission of a useless packet as unnecessary.

[0020]

[Means for Solving the Problem] The system state automatic setting method of the printer of invention

according to claim 1 The master printer which manages two or more printer and two or more printers concerned on a network is connected. It is the system state automatic setting method of the printer which sets up the system state of the system memory switch of each of said printer etc. Said each printer performs an acquisition demand of self system-status information to said master printer through said network at the time of starting. When said master printer transmits system-status information according to the acquisition demand of the printer concerned and sets a system state automatically based on said system-status information which said printer received from the master printer concerned, the above-mentioned purpose is attained.

[0021] According to the above-mentioned configuration, the master printer which manages two or more printer and two or more printers concerned on a network is connected. Each printer performs an acquisition demand of self system-status information to a master printer through a network at the time of starting. Since system-status information is transmitted according to the acquisition demand of the printer concerned and a printer sets a system state automatically based on the system-status information received from the master printer concerned, a master printer Without needing a device special to others, in the environment of only a printer, the system state of the system memory switch of the printer of many number etc. can be acquired from a master printer via a network, and can be set up automatically. It is user-friendly for a user or a serviceman, and can be set as the printer which a maintenance tends to carry out.

[0022] So that it may indicate to claim 2 in this case said master printer The network address of the printer concerned transmitted by the acquisition demand of the system-status information from the printer at the time of said starting is registered into an address list. Transmit system-status information to the printer registered into said address list at a predetermined stage, and a system state setting demand is performed at it. The printer which received the system state setting demand concerned may set a system state automatically based on the transmitted system-status information concerned.

[0023] According to the above-mentioned configuration, a master printer registers into an address list the network address of the printer concerned transmitted by the acquisition demand of the system-status information from the printer at the time of starting. Transmit system-status information to the printer registered into the address list at a predetermined stage, and a system state setting demand is performed at it. Since the printer which received the system state setting demand concerned sets a system state automatically based on the transmitted system-status information concerned The system state of a printer can be set up from a master printer side at the suitable stage after installation of a printer, and it is user-friendly for a user or a serviceman, and can be set as the printer which a maintenance tends to carry out.

[0024] Moreover, for example, said each printer memorizes the network address of said master printer, an acquisition demand of said system-status information is performed to the master printer of the network address concerned, and if said master printer transmits system-status information according to the acquisition demand of the printer concerned, it may set a system state automatically based on the received system-status information concerned, so that it may indicate to claim 3.

[0025] According to the above-mentioned configuration, each printer memorizes the network address of a master printer. If an acquisition demand of system-status information is performed to the master printer of the network address concerned and a master printer transmits system-status information according to the acquisition demand of the printer concerned Since a system state is set automatically based on the received system-status information concerned, a system state can be set automatically efficiently, being able to perform an acquisition demand of system-status information only to a specific master printer, and being able to use transmission of a useless packet as unnecessary.

[0026]

[Embodiment of the Invention] Hereafter, the gestalt of suitable operation of this invention is explained to a detail based on an accompanying drawing. In addition, since the gestalt of the operation described below is a gestalt of suitable operation of this invention, desirable various limitation is attached technically, but especially the range of this invention is not restricted to these modes, as long as there is no publication of the purport which limits this invention in the following explanation.

[0027] Drawing 1 - drawing 3 are drawings showing the gestalt of operation of the 1st of the system state automatic setting method of the printer of this invention, and drawing 1 is the system configuration Fig. of the network system 1 which applied the gestalt of operation of the 1st of the system state automatic setting method of the printer of this invention.

[0028] In drawing 1 , while two or more printers Pa1-Pan of the type (it considers as Type A and Type B temporarily.) with which network systems 1 differ to the networks NW, such as LAN (Local Area Network), and Pb1-Pbn are connected, two or more personal computers PC1-PCn are connected, and the master printers MPa and MPb are decided to Printers Pa1-Pan and Types A and B of Pb1-Pbn, respectively.

[0029] The master printer MPa is a master printer the printer Pa 1 of Type A - for Pan, and the master printer MPb is a master printer the printer Pb1 of Type B - for Pbn.

[0030] In a network system 1, each printers Pa1-Pan and Printers Pb1-Pbn carry out the acquisition demand of the setting information (system-status information) to each type A and B of master printers MPa and MPb at the time of starting, acquire the setting information sent from the master printers MPa and MPb according to an acquisition demand of this setting information, and start it from the contents of the acquired setting information concerned.

[0031] When the master printer MPa and the master printer MPb have a demand of setting information from the printers Pa1-Pan belonging to the self types A and B, and Printers Pb1-Pbn, they return a response and make it set up by transmitting to Printers Pa1-Pan and Printers Pb1-Pbn which have carried out the acquisition demand of setting information by making the contents of a setting holding Printers Pa1-Pan and Printers Pb1-Pbn into setting information.

[0032] As shown in drawing 2 , in a network system 1 namely, each printers Pa1-Pan and Printers Pb1-Pbn A network setup among setting items required at the time of starting, in order to operate in Network NW [ whether it is set up that it is O.K., i.e., a network address, and ] Or the printers Pa1-Pan which checked and (step S101) started whether the processing (automatic acquisition of the network address by the DHCP function of Windows) which acquires an usable network address automatically via Network NW would be completed, Printers Pb1-Pbn advance an acquisition demand (acquisition demand of setting information) of the system-status information of a system memory switch etc. by Network NW to Network NW as it is in an usable condition. The acquisition demand of this setting information has packet composition as shown in drawing 3 , and consists of the type names and network addresses of a printer. That is, Printers Pa1-Pan and Printers Pb1-Pbn send their network address and the type name (the so-called model name) of a printer as information as an acquisition demand of setting information.

[0033] The master printer MPa and the master printer MPb If it checks (step S201) and an acquisition demand of setting information is sent through Network NW from Printers Pa1-Pan and Printers Pb1-Pbn, whether there is any acquisition demand of setting information from Network NW Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of the setting information concerned from the acquisition demand confirm whether to be Printers Pa1-Pan and Printers Pb1-Pbn belonging to self Type A or Type B (step S202). At step S202, the master printer MPa and the master printer MPb The printers Pa1-Pan by which Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of setting information belong to self Type A or Type B, Without answering in any way, when it is not Printers Pb1-Pbn Processing is ended and setting information is returned as they are Printers Pa1-Pan and Printers Pb1-Pbn by which Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of setting information belong to self Type A or Type B (step S203). As this setting information, there are items, such as parallel 1 control, I/F switching time, a medium tray, blank paper delivery mode, automatic delivery time amount, a selection condition, a receive buffer, an input prime, priority memory, a frame mode, emulation detection, a parallel communication link, two-way communication, job classification, and a bootstrap, for example.

[0034] And as this setting information, the master printer MPa and the master printer MPb set the same contents of a setting as the contents currently set up and held as self, and are transmitted to it.

[0035] On the other hand, Printers Pa1-Pan and Printers Pb1-Pbn which performed the acquisition demand of setting information It is confirmed whether the response was received in fixed time amount (S seconds) set up beforehand (steps S103 and S104). By the abnormalities of the case where the master printer MPa and the master printer MPb same type as Printers Pa1-Pan and Printers Pb1-Pbn which performed the acquisition demand of setting information do not exist in Network NW, or Network NW etc. If fixed time amount passes, without receiving a response (step S104), processing will be ended as it is and it will start from the contents of a setting set up at the time of starting.

[0036] If a response is received in fixed time amount, Printers Pa1-Pan and Printers Pb1-Pbn will set up a system memory switch in accordance with the contents of the setting information on the received response, and

will start it by the setup concerned (step S105).

[0037] According to the gestalt of this operation, without needing a device special to others thus, in the environment of only Printers Pa1-Pan, Printers Pb1-Pbn, the master printer MPa, and the master printer MPb The system state of the system memory switch of the printers Pa1-Pan of many number and Printers Pb1-Pbn etc. is gone via Network NW. The master printer MPa, It can acquire from the master printer MPb and can set up automatically, and it is user-friendly for a user or a serviceman, and can be set as Printers Pa1-Pan and Printers Pb1-Pbn which a maintenance tends to carry out.

[0038] Namely, although it is simple as a series of actuation By performing the above-mentioned processing at the time of starting, the printers Pa1-Pan same type A and B and Printers Pb1-Pbn It can start by the same setup. Type A of Printers Pa1-Pan and Printers Pb1-Pbn It can consider as the user-friendly printers Pa1-Pan for the user who wants to perform a different setup from default setting, or an installer for every B, and Printers Pb1-Pbn.

[0039] Drawing 4 and drawing 5 are drawings showing the gestalt of operation of the 2nd of the system state automatic setting method of the printer of this invention, and the gestalt of this operation gives a setting demand of setting information, such as a system memory switch, to a printer side from a master printer side, and corresponds to claim 2.

[0040] In addition, the gestalt of this operation is applied to the network system 1 of the gestalt of implementation of the above 1st, and the same network system, and is explained in explanation of the gestalt of this operation, using the sign used with the gestalt of implementation of the above 1st as it is.

[0041] The network system 1 of the gestalt of this operation serves as the same system configuration as the gestalt of implementation of the above 1st. Each printers Pa1-Pan and Printers Pb1-Pbn As shown in drawing 4 , at the time of starting like the case of the gestalt of implementation of the above 1st A network setup confirms whether to be O.K. or not among setting items required in order to operate in Network NW (step S301), and when Printers Pa1-Pan and Printers Pb1-Pbn which were started are not in an initial value condition, processing is ended as it is.

[0042] At step S301, the acquisition demand of a network address is given to Network NW as it is in an initial value condition (step S302).

[0043] On the other hand, the master printer MPa and the master printer MPb perform check processing to Network NW (step S401), and it is confirmed whether a printer, i.e., Printers Pa1-Pan and Printers Pb1-Pbn, exists else (step S402). The master printer MPa and the master printer MPb Since a setup of a network address is not needed when a printer does not exist in others, When processing is then ended and Printers Pa1-Pan and Printers Pb1-Pbn exist in others If it checks (step S403) and there is an acquisition demand of a network address, whether there is any acquisition demand of a network address The type name of Printers Pa1-Pan and Printers Pb1-Pbn is checked. In the case of the same type name as the master printer MPa and the master printer MPb While choosing the network address to transmit and performing the check of the network address to Network NW (step S404) If it checks (step S405) and the network address does not overlap, whether the network address concerned overlaps Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of a network address through Network NW are answered in the network address concerned (step S406). The master printer MPa and the master printer MPb make the printers Pa1-Pan of demand-network address chosen and transmitted origin, and Printers Pb1-Pbn correspond, and are registered into the address list of internal memories.

[0044] And if Printers Pa1-Pan and Printers Pb1-Pbn confirm whether the network address was received when the acquisition demand of a network address was performed (step S303) and a network address is received, they will register the received network address concerned into an internal memory as a self network address, and will end processing (step S304).

[0045] Thus, the master printer MPa and the master printer MPb The network address of the printers Pa1-Pan which self manages, and Printers Pb1-Pbn as mentioned above by the packet of which it was required at the time of starting If it registers with an address list, as shown in drawing 5 , it is based on this address list. The installation information on a printer same type can be installed also except the time of starting of a printer by giving the resetting demand of a system memory from the master printer MPa and master printer MPb side to each printers Pa1-Pan and Printers Pb1-Pbn which self manages.

[0046] In addition, with the gestalt of this operation, since it is easy, the reinstallation demand of a printer shall



be performed from the control panel of the master printer MPa and the master printer MPb.

[0047] As shown in drawing 5, the master printer MPa and the master printer MPb will confirm whether the resetting demand was performed to the network address of the last registered into the address list, if selection activation of the resetting demand of the item of a control panel is carried out (step S601) (step S602).

[0048] The master printer MPa and the master printer MPb publish a resetting demand to the printers Pa1-Pan of the network address concerned, and Printers Pb1-Pbn in order of the network address of the address list concerned, when it is not the network address of the last of an address list (step S603).

[0049] On the other hand, if a resetting demand is received (step S501), based on the information set as the resetting demand concerned, Printers Pa1-Pan and Printers Pb1-Pbn will change the contents of a setting of self (step S502), and will return them to the master printer MPa and the master printer MPb of the notice of the completion of setting demand-origin (step S503).

[0050] And the master printer MPa which performed the resetting demand and the master printer MPb If it checks (steps S604 and S605), and the notice of the completion of a setting is received or predetermined time progress of whether the notice of the completion of a setting from Printers Pa1-Pan and Printers Pb1-Pbn which performed the resetting demand is received in predetermined time is carried out Processing will be ended, if it processes similarly and the setting demand to the network address of the last of an address list is completed at step S602 to the printer of degree network address of an address list.

[0051] in addition, when Printers Pa1-Pan and Printers Pb1-Pbn which performed the resetting demand have not started, or in being under printing In order for Printers Pa1-Pan and Printers Pb1-Pbn to be able to perform modification of the contents of a setting and not to transmit \*\*\*\* and the notice of the completion of a setting, at the above-mentioned step S605 As \*\*\*\*\*, the notice of completion will not come on the contrary, and performs a setting demand as mentioned above in this case to the printers Pa1-Pan of the next network address of an address list, and Printers Pb1-Pbn.

[0052] Thus, according to the gestalt of this operation, a setting demand of the system state of Printers Pa1-Pan and Printers Pb1-Pbn can be performed from the master printer MPa and master printer MPb side, and the contents of a setting of \*\*, such as a system switch of Printers Pa1-Pan and Printers Pb1-Pbn, can be changed also except the time of starting of Printers Pa1-Pan and Printers Pb1-Pbn.

[0053] Since the Printer Pa1-Pan, printer Pb1 - Pbn side is equipped with functions, such as energy-saving mode, especially recently Even if it will not necessarily surely turn off the power source of Printers Pa1-Pan and Printers Pb1-Pbn in the end on the 1st and changes setting information by the master printer MPa and the master printer MPb in such a case Although the information will be reflected if each printers Pa1-Pan and Printers Pb1-Pbn are not rebooted A setting demand can be advanced from the master printer MPa and the master printer MPb by the gestalt of this operation, and a setup of Printers Pa1-Pan and Printers Pb1-Pbn can be changed with it.

[0054] Drawing 6 is drawing showing the gestalt of operation of the 3rd of the system state automatic setting method of the printer of this invention, and when the gestalt of this operation gives a setting demand to a master printer at the time of starting, it memorizes the network address of the master printer sent from the master printer, performs a subsequent setting demand only to the network address concerned, and corresponds to claim 3.

[0055] In addition, the gestalt of this operation is applied to the network system 1 of the gestalt of implementation of the above 1st, and the same network system, and is explained in explanation of the gestalt of this operation, using the sign used with the gestalt of implementation of the above 1st as it is.

[0056] The network system 1 of the gestalt of this operation serves as the same system configuration as the gestalt of implementation of the above 1st. Each printers Pa1-Pan and Printers Pb1-Pbn At the time of starting, like the case of the gestalt of implementation of the above 1st The master printer MPa, While setting up setting information of self based on the setting information which performed the acquisition demand of setting information to the master printer MPb, and has been sent from the master printer MPa and the master printer MPb according to the demand concerned The network address of the master printer MPa concerned sent from the master printer MPa and the master printer MPb with the setting information concerned and the master printer MPb is registered into an internal memory.

[0057] In the time of starting on and after next time and each printers Pa1-Pan and Printers Pb1-Pbn The inside of a setting item required at the time of starting, in order to operate in Network NW, A network setup confirms



whether to be O.K. or not (step S701), and if Printers Pa1-Pan and Printers Pb1-Pbn which were started are in a condition usable in Network NW It is confirmed whether the network address of the master printer MPa and the master printer MPb is registered into the internal memory (step S702). In installation of Printers Pa1-Pan and Printers Pb1-Pbn etc., since the network address of the master printer MPa and the master printer MPb is not saved to Printers Pa1-Pan and Printers Pb1-Pbn, an acquisition demand of setting information is given by broadcasting to the inside of Network NW like the case of the gestalt of each above-mentioned implementation (step S703).

[0058] However, when the network address of the master printer MPa and the master printer MPb is already registered, an acquisition demand of setting information is advanced by step S702 to the master printer MPa and the master printer MPb of the network address concerned (step S704).

[0059] On the other hand, the master printer MPa and the master printer MPb If it checks (step S801) and an acquisition demand of setting information is sent from Printers Pa1-Pan and Printers Pb1-Pbn, whether there is any acquisition demand of setting information from Network NW Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of the setting information concerned from the acquisition demand confirm whether to be Printers Pa1-Pan and Printers Pb1-Pbn belonging to self Type A or Type B (step S802). At step S802, the master printer MPa and the master printer MPb The printers Pa1-Pan by which Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of setting information belong to self Type A or Type B, Without answering in any way, when it is not Printers Pb1-Pbn Processing is ended and setting information is returned as they are Printers Pa1-Pan and Printers Pb1-Pbn by which Printers Pa1-Pan and Printers Pb1-Pbn which have performed the acquisition demand of setting information belong to self Type A or Type B (step S803). The master printer MPa and the master printer MPb also transmit a self network address while setting the same contents of a setting as the contents currently set up and held as self and transmitting to it as setting information. And if setting information is transmitted, the master printer MPa and the master printer MPb will end processing as it is, when it checks (step S804) and registers with the address list, whether the network address of the printers Pa1-Pan of setting information concerned demand-origin and Printers Pb1-Pbn is already registered into the address list, and. At step S804, if the network address of the printers Pa1-Pan of a requiring agency and Printers Pb1-Pbn is not registered into an address list, the network address of the printers Pa1-Pan of the demand origin concerned and Printers Pb1-Pbn will be registered into an address list, and processing will be ended (step S805).

[0060] And Printers Pa1-Pan and Printers Pb1-Pbn which performed the acquisition demand of setting information If it checks (steps S705 and S706) and a response is received in fixed time amount, whether the response was received in fixed time amount (S seconds) set up beforehand Preservation registration of the network address of the master printer MPa concerned sent with the setting information concerned and the master printer MPb is carried out at an internal memory (step S707). A system memory switch is set up in accordance with the contents of the setting information on the received response, and it starts by the setup concerned (step S708).

[0061] Moreover, the printers Pa1-Pan which performed the acquisition demand of setting information at step S706, By the abnormalities of the case where the master printer MPa and the master printer MPb same type as Printers Pb1-Pbn do not exist in Network NW, or Network NW etc. If fixed time amount passes without receiving a response, it returns to step S701, and when the address of a master printer is not registered at step S702, an acquisition demand of setting information will be advanced [ \*\*\*\*\* ] by broadcasting to the inside of Network NW (step S703). When a response comes on the contrary at this time, (step S705), Printers Pa1-Pan, and Printers Pb1-Pbn carry out preservation registration of the network address of the master printer MPa at that time, and the master printer MPb at an internal memory (step S707). Therefore, Printers Pa1-Pan and Printers Pb1-Pbn will hold the network address of the master printer MPa which always had the response last time, and the master printer MPb.

[0062] Thus, since the network address of the master printer MPa of the same class as self and the master printer MPb is registered when it starts next time if preservation registration of the network address of the master printer MPa and the master printer MPb is carried out at an internal memory, Printers Pa1-Pan and Printers Pb1-Pbn can advance an acquisition demand to the network address, and do not need to take out a useless packet.

[0063] As mentioned above, although invention made by this invention person was concretely explained based

on the gestalt of suitable operation, it cannot be overemphasized that it can change variously in the range which this invention is not limited to the above-mentioned thing, and does not deviate from the summary.

[0064]

[Effect of the Invention] According to the system state automatic setting method of the printer of invention according to claim 1 The master printer which manages two or more printer and two or more printers concerned on a network is connected. Each printer performs an acquisition demand of self system-status information to a master printer through a network at the time of starting. Since system-status information is transmitted according to the acquisition demand of the printer concerned and a printer sets a system state automatically based on the system-status information received from the master printer concerned, a master printer Without needing a device special to others, in the environment of only a printer, the system state of the system memory switch of the printer of many number etc. can be acquired from a master printer via a network, and can be set up automatically. It is user-friendly for a user or a serviceman, and can be set as the printer which a maintenance tends to carry out.

[0065] According to the system state automatic setting method of the printer of invention according to claim 2 A master printer registers into an address list the network address of the printer concerned transmitted by the acquisition demand of the system-status information from the printer at the time of starting. Transmit system-status information to the printer registered into the address list at a predetermined stage, and a system state setting demand is performed at it. Since the printer which received the system state setting demand concerned sets a system state automatically based on the transmitted system-status information concerned The system state of a printer can be set up from a master printer side at the suitable stage after installation of a printer, and it is user-friendly for a user or a serviceman, and can be set as the printer which a maintenance tends to carry out.

[0066] According to the system state automatic setting method of the printer of invention according to claim 3 Each printer memorizes the network address of a master printer, and performs an acquisition demand of system-status information to the master printer of the network address concerned. If a master printer transmits system-status information according to the acquisition demand of the printer concerned, since it sets a system state automatically based on the received system-status information concerned A system state can be set automatically efficiently, being able to perform an acquisition demand of system-status information only to a specific master printer, and being able to use transmission of a useless packet as unnecessary.

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[Translation done.]

## \* NOTICES \*

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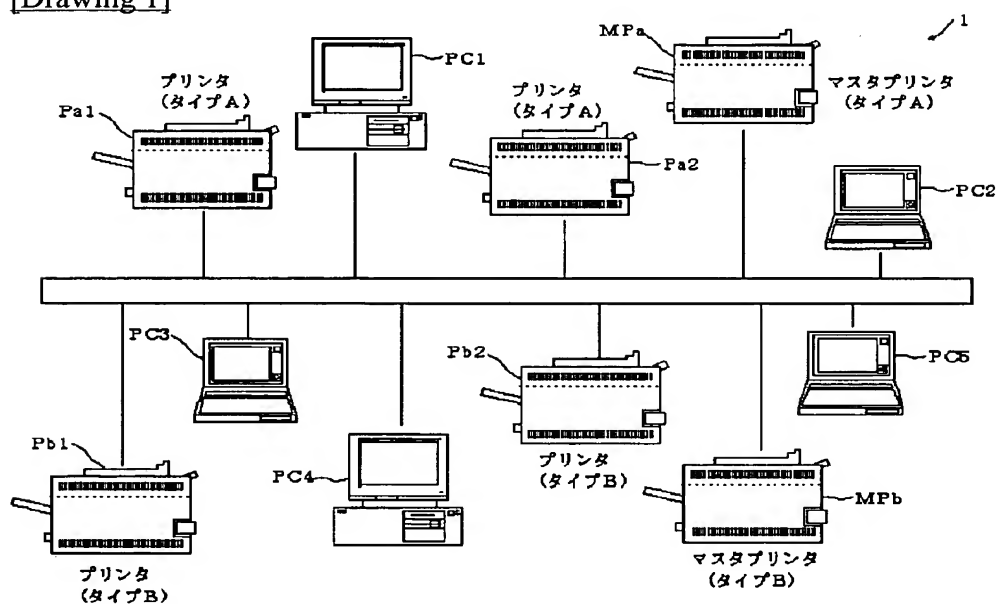
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DRAWINGS

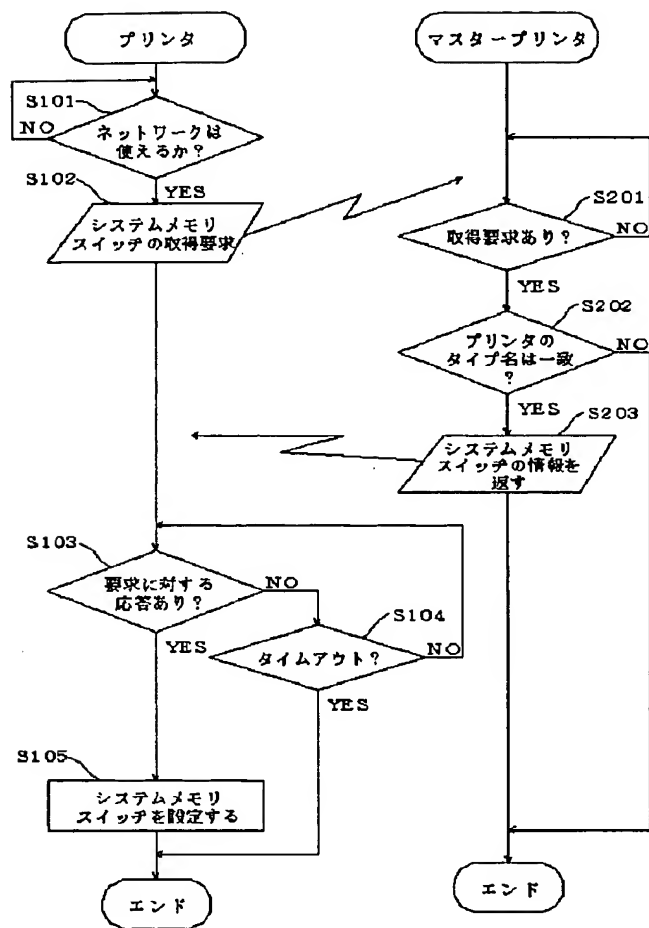
[Drawing 3]

プリンタ (NX-700)	ネットワークアドレス (135 139 49 70)
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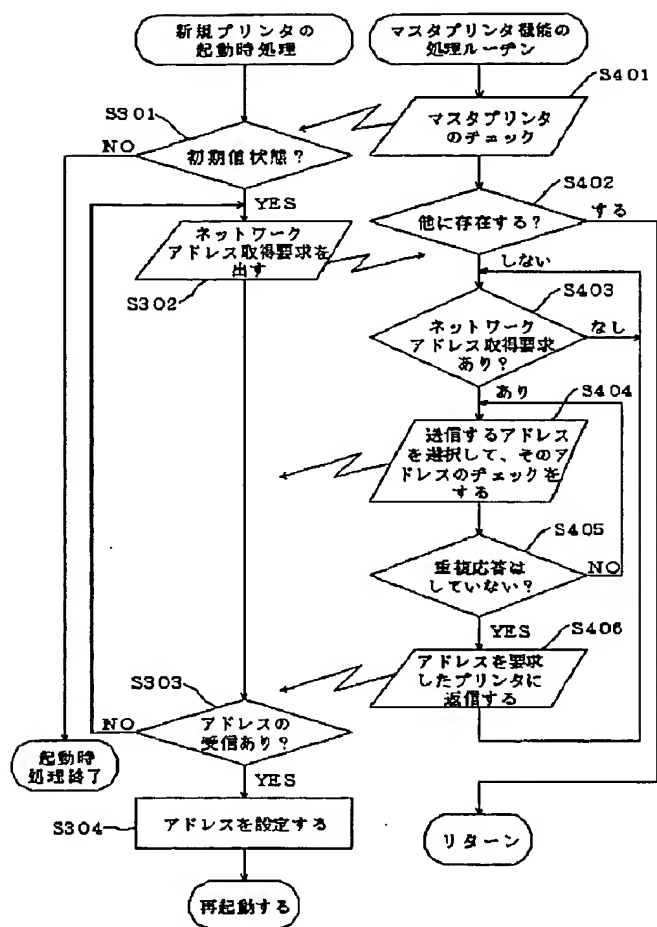
[Drawing 1]



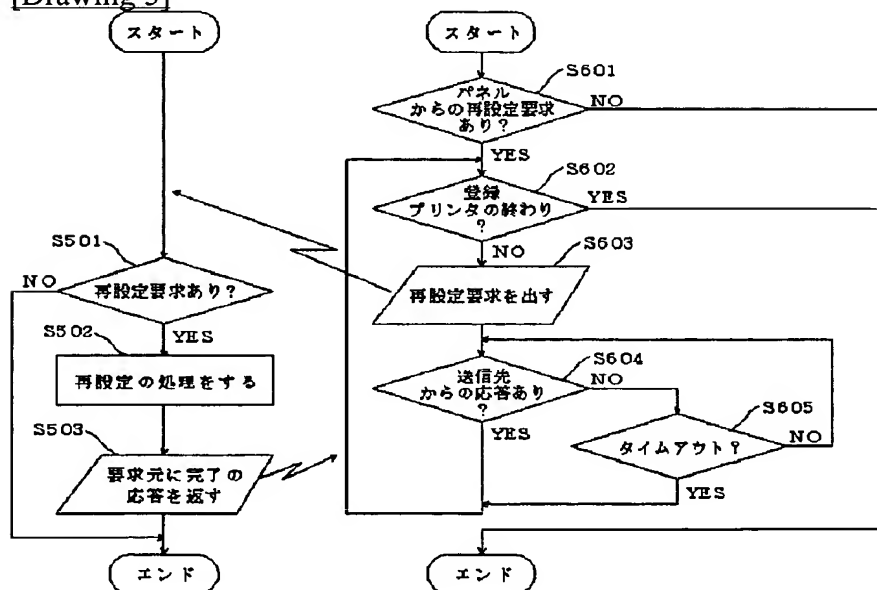
[Drawing 2]



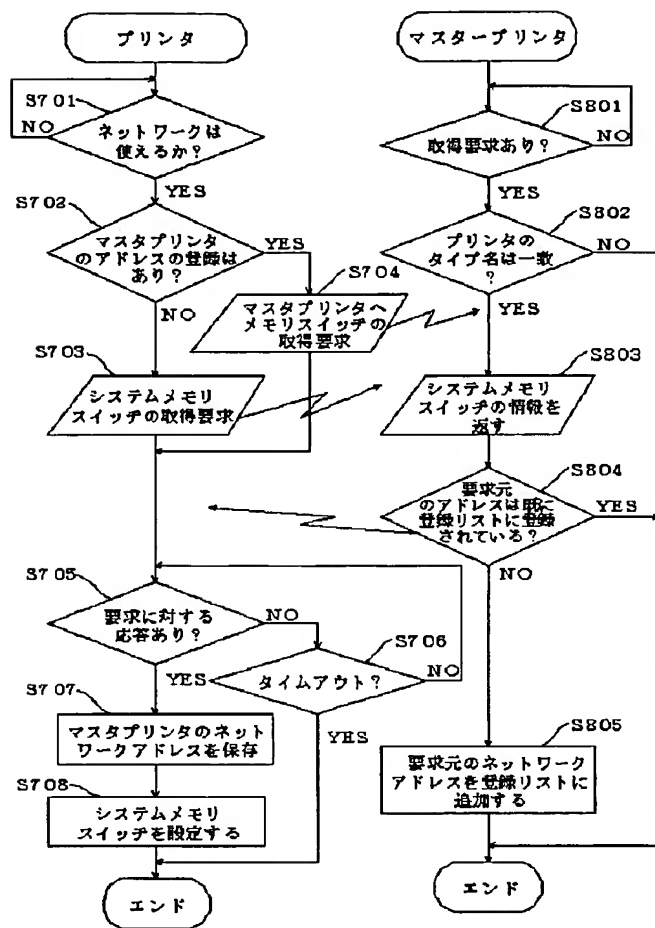
[Drawing 4]



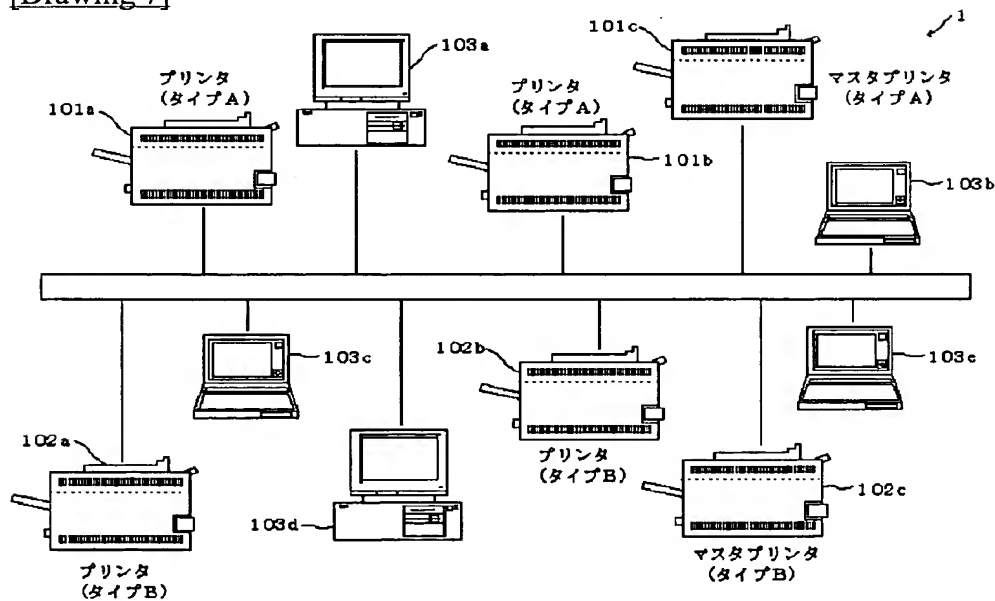
[Drawing 5]



[Drawing 6]



[Drawing 7]



[Translation done.]